

[54] **PRODUCTION OF ETHANOL FROM SUGAR CANE**

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[58] **Field of Search** 435/161, 162, 163, 164,
435/165, 105, 99

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[57] **ABSTRACT**

An integrated process is provided for producing ethanol from sugar cane. Harvested cane is chopped and shredded to provide a mass of fiber and juice which is digested in a first digester with a hemicellulase enzyme. Fibrous residue is separated by centrifuge and passed to a second digester for digestion with a mixed culture of a cellulase enzyme and an ethanol-producing culture. Fibrous residue from is pressed to provide a recycle juice extract and then burned to provide at least part of the heat energy requirement of the process. Juice extracts from digesters separated by centrifuges are combined, sterilized, flashed and passed to a fermentor for fermentation with an ethanol-producing microorganism. Ethanol is recovered from the process by separation utilizing a membrane.

8 Claims, 1 Drawing Figure